

Appl. No. 10/605,959
Amdt. Dated 8 September 2005
Reply to Office action of 9 June 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-56. (Cancelled)

57. (Currently amended) An apparatus for distributing a fluid in a gas flow path inside a turbomachine, the apparatus comprising:

at least one stage of a turbomachine, the stage comprising a 360 degree casing and at least one stator blade extending radially from an inner surface of the casing;

a casing groove located at the inner surface of the casing and forming a plenum cavity between the stator blade and the casing;

a stator blade cavity located at an interior of the stator blade, and in fluid communication with the casing groove;

a port located at the casing and in fluid communication with the casing groove; and

at least one orifice located at an orifice surface of the stator blade, the orifice in fluid communication with the stator blade cavity.

58. (Original) The apparatus of claim 57, wherein the casing-groove plenum cavity extends for the entire 360 degrees of the inner surface of the casing.

59. (Currently amended) The apparatus of claim 57 An apparatus for distributing a fluid in a gas flow path inside a turbomachine, the apparatus comprising:

at least one stage of a turbomachine, the stage comprising a 360 degree casing and at least one stator blade extending radially from an inner surface of the casing;

a casing groove located at the inner surface of the casing;

a stator blade cavity located at an interior of the stator blade, and in fluid communication with the casing groove;

a port located at the casing and in fluid communication with the casing groove; and

at least one orifice located at an orifice surface of the stator blade, the orifice in fluid communication with the stator blade cavity, wherein the orifice surface is at a low pressure surface of the stator blade.

Appl. No. 10/605,959
Amtd. Dated 8 September 2005
Reply to Office action of 9 June 2005

60. (Original) The apparatus of claim 57, wherein the interface between the at least one stator blade and the casing is sealed with a static seal.

61. (Original) The apparatus of claim 60, wherein the static seal is a rope seal.

62. (Currently Amended) The apparatus of claim 57, wherein the casing groove between adjacent stator blades are seal sealed with a static seal.

63. (Original) The apparatus of claim 62, wherein the static seal is a rope seal.

64. (Currently amended) The apparatus of claim 57 An apparatus for distributing a fluid in a gas flow path inside a turbomachine, the apparatus comprising:

at least one stage of a turbomachine, the stage comprising a 360 degree casing and at least one stator blade extending radially from an inner surface of the casing, further comprising a stator blade groove located at a top surface of the stator blade;

a casing groove located at the inner surface of the casing, the stator blade groove and casing groove forming a larger plenum cavity between the stator blade and the casing;

a stator blade cavity located at an interior of the stator blade, and in fluid communication with the casing groove;

a port located at the casing and in fluid communication with the casing groove; and

at least one orifice located at an orifice surface of the stator blade, the orifice in fluid communication with the stator blade cavity.

65. (Original) The apparatus of claim 64, wherein every stator blade in the at least one turbomachine stage is configured in the same manner as the at least one stator blade.

66. (Currently amended) An apparatus for distributing an atomized fluid in a gas flow path inside a turbomachine, the apparatus comprising:

at least one stage of a turbomachine, the stage comprising a 360 degree casing and at least one stator blade extending radially from an inner surface of the casing;

a casing groove located at the inner surface of the casing and forming a plenum cavity between the stator blade and the casing;

a stator blade cavity located at an interior of the stator blade, and in fluid communication with the casing groove;

a port located at the casing and in fluid communication with the casing groove; and

Appl. No. 10/605,959
Amdt. Dated 8 September 2005
Reply to Office action of 9 June 2005

at least one atomizer with at least one orifice located at an orifice surface of the stator blade, the orifice in fluid communication with the stator blade cavity.

67. (Original) A method for installing an apparatus that will distribute a fluid in a gas flow path inside a turbomachine, the method comprising:

- machining a casing groove along an inner surface of a casing;
- machining at least one port into the casing that is in fluid communication with the casing groove;
- machining an internal cavity in at least one stator blade that is in fluid communication with the casing groove;
- machining at least one orifice, that is in fluid communication with the internal cavity, on an orifice surface of the stator blade; and
- coupling a fluid supply to the at least one port.

68. (Original) The method of claim 67, wherein the casing groove is machined along a 360 degree circumference of the inner surface of the casing.

69. (Original) The method of claim 67, wherein the orifice surface is on a low pressure surface of the stator blade.

70. (Original) The method of claim 67, further comprising machining a stator blade groove on a top surface of the at least one stator blade;

71. (Original) The method of claim 68, further comprising:
machining a stator blade groove on a top surface of every stator blade in at least one turbomachine stage;
machining at least one orifice, that is in fluid communication with the internal cavity, on an orifice surface of every stator blade in the turbomachine stage.

72. (Original) The method of claim 69, further comprising:
machining an internal cavity in every stator blade in the turbomachine stage, where each cavity is in fluid communication with each stator blade groove;
machining at least one orifice, that is in fluid communication with the internal cavity, on an orifice surface of every stator blade in the turbomachine stage.

73-76. (Canceled)